TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-15416-1

Job Description: Rainier Commons

For:
Clean Harbors Environmental Services Inc
19320 Des Moines Memorial Dr
Bldg D, Suite 400
Seatac, WA 98148

Attention: Shawn Estrada

Approved for release.
Heather Curbow
Project Manager I
9/28/2009 3:09 PM

Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
09/28/2009

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

RCLLC 0001860

Job Narrative
580-J15416-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
Method(s) 8082:
Due to the high concentration of Aroclor 1260 and other aroclors, the matrix spike / matrix spike duplicate (MS/MSD) for batch 50379 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

The surrogate (DCB) recovery for the laboratory control standard associated with extraction batch 50322 was outside recovery limits. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Metals (ICP)	TAL TAC	SW846 6010B	
Preparation, Metals	TAL TAC		SW846 3050B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15416-1	RC 91509	Solid	09/15/2009 0000	09/15/2009 1200

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Client Sample ID: **RC 91509**

Lab Sample ID: 580-15416-1
Client Matrix: Solid
% Moisture: 0.5

Date Sampled: 09/15/2009 0000
Date Received: 09/15/2009 1200

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-50379	Instrument ID: TAC034
Preparation:	3550B	Prep Batch: 580-50322	Initial Weight/Volume: 10.0714 g
Dilution:	1.0		Final Weight/Volume: 10 mL
Date Analyzed:	09/17/2009 1223		Injection Volume: 1.0 uL
Date Prepared:	09/16/2009 1107		Result Type: PRIMARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	95		45 - 155
DCB Decachlorobiphenyl	107		60 - 125

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Client Sample ID: RC 91509

Lab Sample ID: 580-15416-1
Client Matrix: Solid
% Moisture: 0.5

Date Sampled: 09/15/2009 0000
Date Received: 09/15/2009 1200

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-50379	Instrument ID:	TAC034
Preparation:	3550B	Prep Batch: 580-50322	Initial Weight/Volume:	10.0714 g
Dilution:	10		Final Weight/Volume:	10 mL
Date Analyzed:	09/17/2009 1726		Injection Volume:	1.0 uL
Date Prepared:	09/16/2009 1107		Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.10
PCB-1221		ND		0.10
PCB-1232		ND		0.10
PCB-1242		ND		0.10
PCB-1248		ND		0.10
PCB-1254		ND		0.10
PCB-1260		4.7		0.10

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Client Sample ID: **RC 91509**

Lab Sample ID: 580-15416-1
Client Matrix: Solid
% Moisture: 0.5

Date Sampled: 09/15/2009 0000
Date Received: 09/15/2009 1200

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 580-50845		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-50784		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0758 g
Date Analyzed:	09/24/2009 1346			Final Weight/Volume:	50 mL
Date Prepared:	09/23/2009 1753				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Lead		33		1.4

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

General Chemistry

Client Sample ID: **RC 91509**

Lab Sample ID: 580-15416-1
Client Matrix: Solid

Date Sampled: 09/15/2009 0000
Date Received: 09/15/2009 1200

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	100		%	0.10	1.0	Moisture
	Analysis Batch: 580-50363		Date Analyzed: 09/16/2009 1745			DryWt Corrected: N
Percent Moisture	0.49		%	0.10	1.0	Moisture
	Analysis Batch: 580-50363		Date Analyzed: 09/16/2009 1745			DryWt Corrected: N

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Method Blank - Batch: 580-50322

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-50322/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/17/2009 1153
Date Prepared: 09/16/2009 1107

Analysis Batch: 580-50379
Prep Batch: 580-50322
Units: mg/Kg

Instrument ID: TAC034
Lab File ID: PCB23780.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	98	45 - 155
DCB Decachlorobiphenyl	117	60 - 125

Lab Control Sample - Batch: 580-50322

Method: 8082
Preparation: 3550B

Lab Sample ID: LCS 580-50322/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/17/2009 1208
Date Prepared: 09/16/2009 1107

Analysis Batch: 580-50379
Prep Batch: 580-50322
Units: mg/Kg

Instrument ID: TAC034
Lab File ID: PCB23781.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	0.100	0.0994	99	40 - 140	
PCB-1260	0.100	0.120	120	60 - 130	

Surrogate	% Rec		Acceptance Limits
Tetrachloro-m-xylene	102		45 - 155
DCB Decachlorobiphenyl	127	X	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-50322

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-15416-1	Analysis Batch: 580-50379	Instrument ID: TAC034
Client Matrix:	Solid	Prep Batch: 580-50322	Lab File ID: PCB23783.D
Dilution:	1.0		Initial Weight/Volume: 10.4406 g
Date Analyzed:	09/17/2009 1239		Final Weight/Volume: 10 mL
Date Prepared:	09/16/2009 1107		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	580-15416-1	Analysis Batch: 580-50379	Instrument ID: TAC034
Client Matrix:	Solid	Prep Batch: 580-50322	Lab File ID: PCB23784.D
Dilution:	1.0		Initial Weight/Volume: 10.2651 g
Date Analyzed:	09/17/2009 1255		Final Weight/Volume: 10 mL
Date Prepared:	09/16/2009 1107		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	590	429	40 - 140	30	20	F	F
PCB-1260	-1560	-2170	60 - 130	27	20	4	4 F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	90	87	45 - 155
DCB Decachlorobiphenyl	100	96	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Method Blank - Batch: 580-50784

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-50784/16-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/24/2009 1222
Date Prepared: 09/23/2009 1753

Analysis Batch: 580-50845
Prep Batch: 580-50784
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		3.0
Barium	ND		0.50
Cadmium	ND		0.50
Chromium	ND		1.3
Lead	ND		1.5
Selenium	ND		5.0
Silver	ND		1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-50784

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-50784/17-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/24/2009 1226
Date Prepared: 09/23/2009 1753

Analysis Batch: 580-50845
Prep Batch: 580-50784
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-50784/18-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/24/2009 1230
Date Prepared: 09/23/2009 1753

Analysis Batch: 580-50845
Prep Batch: 580-50784
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	91	93	80 - 120	1	35		
Barium	99	100	80 - 120	2	35		
Cadmium	93	95	80 - 120	1	35		
Chromium	98	100	80 - 120	2	35		
Lead	95	96	80 - 120	1	35		
Selenium	87	88	80 - 120	1	35		
Silver	93	95	80 - 120	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Clean Harbors Environmental Services Inc Job Number: 580-15416-1

Lab Section	Qualifier	Description
GC Semi VOA		
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits

CleanHarbors
ENVIRONMENTAL SERVICES®

CHAIN OF CUSTODY RECORD PAGE 1 OF 1 — 1546

❑ 1 Hill Avenue, Braintree, MA 02184 Tel. (781) 849-1800
❑ 2202 Genoa Red Bluff Road, Houston, TX 77034 Tel. (281) 478-7700
❑ RTE. 2, Box 170, Waynoka, OK 73860 Tel. (580) 697-3500
❑ 5295 S. Garvey Road, Westmorland, CA 92281 Tel. (760) 344-9400
❑ 12400 247th Avenue SE, Sawyer, ND 58781 Tel. (701) 624-5622
❑ Other

Client: Clean Harbors Project Name: River Commons Work Order/P.O. #: Date: 9/15/09

Report To: Shawn Estrada Address: 19320 Des Moines Memorial Dr. Seattle, WA Phone #: 206-390-0032

Sample I.D.	Sampling Information: Date	Time	Station Location	Sample Matrix	Analysis: 6010B Lead	8082 PCBs									# of con.	CHES Sample #
RC 91509	9/15															

Relinquished by Sampler: Adam Parker Date: 9/15/09 Time: 1130

Received by: Date: 9/15/09 Time: 1130 1200

Relinquished by Sampler: Date: Time:

Received by: Date: Time:

VOA Vial									
Glass Bottle									
Plastic Bottle									
Preservation									
Volume									

DOT Shipping Name:

COMMENTS: (Fax Number, cautions, special instructions)

25° 24.7°C walkin, no cooler

Standard laboratory turnaround time is 1 week from date of receipt. Accelerated turnaround may be assessed a surcharge.

Location of samples:

Turnaround: 24 Hrs. 48 Hrs. 1 Week Other:

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RCLLC 0001872

Login Sample Receipt Check List

Client: Clean Harbors Environmental Services Inc

Job Number: 580-15416-1

Login Number: 15416
Creator: Blankinship, Tom
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	hand Del
Cooler Temperature is acceptable.	False	ambient
Cooler Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	noname
Sample Preservation Verified	True	